

Richmond Refinery LPS Bulletin – Reliability



RI – GHT – Unplanned Shutdown to Replace Leaking PRD's



IMPACT ERM#:

23709 (D&R Division)

19909 (UE Division)

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2 PRDs that lifted at GHT

URIP
Design/Care/Fix/Prevent

Incident Description:

SUMMARY: On August 15th, it was determined that the GHT should be shut down to repair two (2) steam safety relief valves that would not fully reset after the GHT experienced a steam system upset. The steam loss from the PRDs and the failure to reset caused a minimal economic loss. The equipment was still protected so it was not immediately shut down until the Oils Planning Group could manage the gasoline blend inventories. This shut down was unplanned and not part of the refinery Long Range Operating Plan.

Investigation Findings:

1. The TG-800 Cogen PRD lifting inadvertently on the 500# steam exhaust header caused a Cogen plant upset. It was determined that a contracting PRD company had left a plug out of the Cogen PRD pilot valve.
2. Damage to the GHT PRDs occurred upon lifting the first time, causing the PRDs to leak even after resetting occurred.
3. Pilot-operated PRDs at the Cogen plant are relatively new with limited information available to operations.

Recommendations:

1. Evaluate the start up procedure for K-1670, in the GHT plant, to prevent over-pressuring the steam system and causing the PRDs to lift.
2. Replacement PRDs were ordered to reduce maintenance time while the plant is shut down.
3. Upgrade the system to allow these PRDs to be replaced without causing a shutdown by either installing isolation valves or installing redundant PRDs.
4. With the help of the PRD contracting company, develop a PRD commissioning procedure for pilot-operated valves in the Cogen plant.

Tenets of Operations Breached:

1. **Always operate within design or environmental limits.**
6. **Always maintain integrity of dedicated systems.**

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